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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/560,785

12/14/2005

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EXAMINER

GUHARAY, KARABI

ART UNIT

PAPER NUMBER

2889

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,785	<b>Applicant(s)</b> HANAI ET AL.	
	<b>Examiner</b> Karabi Guharay	<b>Art Unit</b> 2889	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment, filed on 7/28/09.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

***Response to Amendment***

Amendment, filed on 7/28/09, has been considered and entered.

Claim 1 has been amended, new claims 2-4 are added. Currently claims 1-4 are pending.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (JP 09-045275, of record), and further in view of Gilbert (JP 62-287560, of record). Regarding claim 1, Kimura et al. disclose an electron-multiplier (Figs 1 & 2) comprising a dynode unit (100 of Fig 8) having a plurality of dynodes (500) positioned in a mutually-insulated layered state in multiple stages and disposed in a vacuum container; an anode (6 of Fig 8) housed inside the vacuum container; a plurality of insulating plates (ceramic ring 41), insulating the respective dynodes from each other; and columns (200 of Fig 8)

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are fit or engage with the respective dynodes and the respective insulating plates, wherein the respective dynodes and the respective insulating plates are overlapped alternately (see Fig 8; see Paragraphs 24-28 of English translation) in the state of being fitted or engaged with the columns and the respective dynodes and the respective insulating spacers are supported integrally on the columns (200) by means of arresting members (202) being fixed to the tip portion of the columns at the front edge of the column (see Fig 8, paragraph 34), wherein an insulating part (430) is provided so as to surround each respective column (200) in the area near edge so that each dynode, anode and insulating plate are stacked on the insulating part (see Fig 8; paragraph 32).

However, Kimura fail to disclose that the columns are erected from a stem plate (8) making up the vacuum container (housing 1 of Fig 2).

However, in the same filed of electron multiplier, Gilbert discloses an electron multiplier tube (Fig 1 & Fig 2) where the columns (sliding means 50) holding or engaging the dynode unit (electron multiplier unit 40) are erected from a stem plate (base 6) making up the vacuum container (10) and arresting members (53) are fixed to a front edge of each respective column (See English translation).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the column of Kimura being erected the stem plate and fixed to the stem plate as taught by Gilbert since such structure will have more stable configuration with more mechanical strength., and also facilitates manufacturing steps.

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Regarding claim 2, Kimura et al. disclose that the insulating part is an insulating ring that is fit or engaged near the rear edge section of a column (Fig 8).

Regarding claim 3, Kimura et al. disclose an insulating pipe (201) that is fitted onto a column (Figs 6-7).

Regarding claim 4, Kimura et al. fail to disclose a male thread portion on a pointed end of the column, and a nut is fixed on the male thread portion which acts as arresting member, instead, Kimura formed a T-shaped end portion for arresting member.

However, it would have been obvious to one having ordinary skill in the art to use a nut and a thread portion in the column for fixing all the dynodes and insulating plates in place which is a well known common method of fixing or supporting other elements, as an obvious design choice.

### ***Response to Arguments***

Applicant's arguments with respect to claim 1, filed on 7/28/09 have been considered but they are not persuasive.

Applicant contends that claimed electron multiplier structure has advantageously results in the respective dynodes and the respective insulating plates being integrally and firmly supported by the columns so that the dynodes and the insulating plates will not undergo lateral deviation due to vibration or impact. Accordingly, the dynode unit exhibits an excellent anti-vibration effect and an improved aseismic effect (see Remark, page 5), while applicant analyses the whole structure of Gilbert and concludes that Gilbert's structure would result in poor overall aseismic capacity **even though it employs a structure that provides a supporting column on a stem (see Page 6).**

In response examiner respectfully presents that this is considered a piecemeal analysis. Applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir.1986).

In this case, Gilbert's all the features of the electron multiplier is not the matter of concern, since all the features of the Gilbert is not bodily incorporated in the device of Kimura et al. It is the teaching of supporting column on a stem which is being employed in the device of Kimura for achieving some manufacturing advantage, which is an obvious choice for an ordinary skill in the art.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is 571-272-2452. The examiner can normally be reached on Monday-Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on 571-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Karabi Guharay/  
Primary Examiner, Art Unit 2889